

## Clinical Policy: Enhanced External Counterpulsation

Reference Number: HNCA.CP.MP. 131

Effective Date: 2/16

Last Review Date: 2/24

[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

Medicare	See National Coverage Decision (NCD) 20.20: External Counterpulsation (ECP) Therapy for Severe Angina
----------	---

### Description

Enhanced external counterpulsation (EECP) is a nonpharmacologic technique used for the treatment of patients with chronic, disabling, stable angina refractory to medical treatment and/or surgical therapies. A full course of therapy usually consists of 35 one-hour treatments, which may be offered once or twice daily, usually 5 days per week.

### Policy/Criteria

- I. It is the policy of Health Net of California that EECP is medically necessary for any of the following indications:
  - A. Patients with disabling, chronic, stable angina (New York Heart Association Class III or IV angina) who are not amenable to or tolerant of medical treatment;
  - B. Patients who, in the opinion of a cardiologist or cardiothoracic surgeon, are not appropriate candidates for surgical intervention due to one of the following:
    1. Patient's condition is inoperable, or at high risk of operative complications or post-operative failure;
    2. Patient's coronary anatomy is not readily amenable to such procedures; or
    3. Patient has co-morbid conditions that create excessive surgical risk.
  
- II. It is the policy of Health Net of California that a repeat course of EECP is medically necessary for patients who meet the criteria above and have relapsed after having previously demonstrated an objective response to EECP as evidenced by any of the following:
  - A. Early improvement in radionuclide stress perfusion imaging compared to a pre-EECP baseline;
  - B. Significant reduction or disappearance of angina symptoms;
  - C. Reduction in antianginal medication use;
  - D. Improvement in exercise tolerance.
  
- III. It is the policy of Health Net of California that EECP is not medically necessary for any other conditions than those specified above.

### Background

EECP involves sequential pneumatic compression of the legs coordinated with cardiac contractions. Cuffs are wrapped around the patient's calves, thighs, and pelvis and, using compressed air, sequential pressure (up to 300 mmHg) is applied in early diastole to propel blood back to the heart. The goal of this procedure is to increase diastolic aortic blood pressure,

## Enhanced External Counterpulsation

improve venous blood return, and decrease afterload on the left ventricle, in patients with chronic angina pectoris, relieving pain and reducing impairment. External counterpulsation is the best studied of possible mechanical therapies to improve angina.

There have been a number of studies that have shown that EECP offers an effective, durable therapeutic approach for refractory angina. Decreased angina and improvement in quality of life were maintained at 2 years, with modest repeat EECP and low major cardiovascular event rates. The findings provide evidence that EECP has a beneficial effect on peripheral artery flow-mediated dilation and endothelial-derived vasoactive agents in patients with symptomatic chronic angina.

American College of Cardiology, American Heart Association, American Association for Thoracic Surgery, Society for Cardiovascular Angiography (2014) states that EECP may be considered for relief of refractory angina in patients with stable ischemic heart disease. ECP has met with only limited acceptance in practice.

### Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2015, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT® Codes	Description
92971	Cardioassist-method of circulatory assist; external

HCPCS Codes	Description
G0166	External Counterpulsation, per session

### ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
I20.9	Angina pectoris, unspecified
I25.x	Atherosclerotic heart disease of native coronary artery with angina etc

Reviews, Revisions, and Approvals	Date	Approval Date
Policy Adopted from Health Net NMP#131. Enhanced External Counterpulsation	2/17	2/17



Reviews, Revisions, and Approvals	Date	Approval Date
Update, no changes	2/18	2/18
Update, minor wording changes and added references	2/19	2/19
Update: added reference	2/20	2/20
Update: added codes, no other changes	2/21	2/21
Update: added references	2/22	2/22
Update: added reference	2/23	2/23
Updated with Medicare NCD 20.20 reference	2/24	2/24

**References**

1. Caceres J, Atal P, Arora R, Yee D. Enhanced external counterpulsation: A unique treatment for the "no-option" refractory angina patient. *J Clin Pharm Ther.* 2021 Jan 7 [Online ahead of print].
2. Centers for Disease Control and Prevention, National Center for Health Statistics. [About Multiple Cause of Death, 1999–2020](#). CDC WONDER Online Database website. Atlanta, GA: Centers for Disease Control and Prevention; 2022. Accessed February 16, 2023.
3. Fihn SD, Blankenship JC, Alexander KP, et al. 2014 ACC/AHA/AATS/PCNA/SCAI/STS focused update of the guideline for the diagnosis and management of patients with stable ischemic heart disease: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines, and the American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. *J Am Coll Cardiol.* 2014;64(18):1929.
4. Hayes. Medical Technology Directory. External Counterpulsation. June 25, 2012. Updated 2019
5. Simons M. New Therapies for Angina Pectoris. UpToDate. Updated June 28, 2016.
6. Soran O, Kennard ED, Kfoury AG, et al. Two-year clinical outcomes after enhanced external counterpulsation (EECP) therapy in patients with refractory angina pectoris and left ventricular dysfunction (report from The International EECP Patient Registry). *Am J Cardiol.* 2006;97(1):17.
7. Simons M. New Therapies for Angina Pectoris. UpToDate. Updated Dec, 2017
8. Buschmann EE, Hillmeister P, Bondke Persson A, et al. Short-term external counterpulsation augments cerebral blood flow and tissue oxygenation in chronic cerebrovascular occlusive disease. *Eur J Neurol.* 2018;25(11):1326-1332.
9. Wang Y, Xu D. The effect of enhanced external counterpulsation on platelet aggregation in patients with coronary heart disease. *Cardiovasc Drugs Ther.* 2021 Jan 21 [Online ahead of print].
10. Zhang C, Liu X, Wang X, et al. Efficacy of enhanced external counterpulsation in patients with chronic refractory angina on Canadian Cardiovascular Society (CCS) angina class: An updated meta-analysis. *Medicine (Baltimore).* 2015;94(47):e2002

### Enhanced External Counterpulsation

11. Braith RW, Conti CR, Nichols WW, et al. Enhanced external counterpulsation improves peripheral artery flow-mediated dilation in patients with chronic angina: a randomized sham-controlled study.
12. Yancy CW, Jessup M, Bozkurt B, et al. 2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. *Circulation*. Aug 08 2017; 136(6): e137-e161. PMID 28455343
13. Centers for Medicare and Medicaid Services National Coverage Determination for External Counterpulsation (ECP) for Severe Angina. NCD #20.20. Effective March 20, 2006. <https://www.cms.gov/medicare-coverage-database/search.aspx>.

#### **Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to



recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

This clinical policy is the property of the Health Plan. Unauthorized copying, use, and distribution of this clinical policy or any information contained herein are strictly prohibited. Providers, members and their representatives are bound to the terms and conditions expressed herein through the terms of their contracts. Where no such contract exists, providers, members and their representatives agree to be bound by such terms and conditions by providing services to members and/or submitting claims for payment for such services.

**Note: For Medicaid members,** when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

**Note: For Medicare members,** to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs and LCDs should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

©2016 Centene Corporation. All rights reserved. All materials are exclusively owned by Centene Corporation and are protected by United States copyright law and international copyright law. No part of this publication may be reproduced, copied, modified, distributed, displayed, stored in a retrieval system, transmitted in any form or by any means, or otherwise published without the prior written permission of Centene Corporation. You may not alter or remove any trademark, copyright or other notice contained herein. Centene® and Centene Corporation® are registered trademarks exclusively owned by Centene Corporation.